

Please add the following new claims:

15. (New) A sheathed-element glow plug provided with an ionic-current sensor, comprising:

a housing; and

a rod-shaped heating element arranged in a concentric bore hole of the housing, the heating element including:

at least one insulating layer made of an electrically insulating ceramic material,

a first lead layer made of an electroconductive ceramic material,

a second lead layer made of the electroconductive ceramic material,

a bar located at an end of the heating element on a combustion chamber side and made of the electroconductive ceramic material, the first lead layer and the second lead layer being connected via the bar,

a first electrode for detecting an ionic current, and

a second electrode for detecting the ionic current, the first electrode and the second electrode being one of embedded in the at least one insulating layer and applied on the at least one insulating layer.

16. (New) The sheathed-element glow plug according to claim 15, wherein the first electrode and the second electrode are made of a metallic material.

17. (New) The sheathed-element glow plug according to claim 15, wherein the first electrode and the second electrode are made of platinum.

18. (New) The sheathed-element glow plug according to claim 15, wherein the first electrode and the second electrode are made of the electroconductive ceramic material.

19. (New) The sheathed-element glow plug according to claim 18, wherein the first electrode and the second electrode are made from a ceramic composite structure that is made of at least two of the compounds Al_2O_3 , MoSi_2 , Si_3N_4 , and Y_2O_3 in accordance with one of a one-step sintering process and a multi-step sintering process.

20. (New) The sheathed-element glow plug according to claim 18, wherein the first electrode and the second electrode are made from a composite precursor ceramic including a matrix and a filler, the matrix including one of a polysiloxane, a polysilsesquioxane, a polysilane, and a polysilazane, doped with one of boron, nitrogen, and aluminum and produced by pyrolysis, the filler being formal from at least one of the compounds Al_2O_3 , MoSi_2 , SiO_2 and SiC .

21. (New) The sheathed-element glow plug according to claim 15, further comprising:

a first electrical connection; and

a second electrical connection, wherein the first electrical connection and the second electrical connection are arranged at an end of the heating element remote from the combustion chamber, the first electrical connection being connected to an end of the first electrode remote from the combustion chamber, and the second electrical connection being connected to an end of the second electrode remote from the combustion chamber.

22. (New) The sheathed-element glow plug according to claim 15, further comprising:

a combustion chamber seal, wherein the second lead layer is connected to ground via the housing and the combustion-chamber seal.

23. (New) The sheathed-element glow plug according to claim 15, further comprising:

a tubular spacer sleeve made of an electrically insulating material and arranged at an end of the heating element remote from the combustion chamber within the concentric bore hole of the housing.

24. (New) The sheathed-element glow plug according to claim 15, wherein the at least one insulating layer, the first lead layer, the bar, and the second lead layer are made from a ceramic composite structure that is made of at least two of the compounds Al_2O_3 , MoSi_2 , Si_3N_4 , and Y_2O_3 in accordance with one of a one-step sintering process and a multi-step sintering process.

25. (New) The sheathed-element glow plug according to claim 15, wherein the at least one insulating layer, the first lead layer, the bar, and the second lead layer are made from a composite precursor ceramic including a matrix and a filler, the matrix including one of a polysiloxane, a polysilsesquioxane, a polysilane, and a polysilazane, the matrix doped with one or boron, nitrogen, and aluminum and produced by pyrolysis, the filler made from at least one of the compounds Al_2O_3 , MoSi_2 , SiO_2 , and SiC .

26. (New) A method for operating a sheathed-element glow plug having an ionic-current sensor, comprising:
applying an electrical voltage to a first lead layer and a second lead layer during a glow phase; and
after the glow phase ends, applying the electrical voltage to a first electrode for detecting an ionic current and to a second electrode for detecting the ionic current.

27. (New) The method according to claim 26, wherein the electrical voltage applied to the first electrode and the electrical voltage applied to the second electrode have a same potential.

28. (New) The method according to claim 26, wherein the electrical voltage applied to the first electrode and the electrical voltage applied to the second electrode have a different potential.

29. (New) A method for operating a sheathed-element glow plug having an ionic-current sensor, comprising: